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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,321	02/22/2002	Abhimayu Onkar Patil	ECB-0202	9425

27810 7590 07/10/2003

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EXAMINER

DANG, THUAN D

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 07/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,321

Applicant(s)

PATIL ET AL.

Examiner

Thuan D. Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the expression "capable of producing a Schulz-Flory of less than about 0.8" makes the claim indefinite since it is unclear this capability would function in the claimed process or not. Further, it is unclear which organometallic catalysts have this characteristics.

The terms "Brookhart type", "NiBBIM" and "SHOP" make claim 17, 21, 24, and 27 is indefinite since these terms may be tradenames and "type" is unacceptable in patent claims.

Claims 21, 22, 24, and 27 are indefinite since the catalysts recited in these claims are not positively selected to use for the claimed process.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-29 are rejected under 35 U.S.C. 103(a) as obvious over Dunn (3,558,738).

Dunn disclose using an organo-nickel catalyst for catalyzing a mixture of reactants including ethylene and others 1-olefins such as butene-1 under the applicants' claimed condition of pressure and temperature to produce hexene(s) (the abstract; col. 1, lines 56-65; col. 2, line 17 thru col. 4, line 70).

Dunn appears to be silent as to (1) the Schulz-Flory value of the catalyst, (2) a stoichiometric excess of the terminal olefin and ethylene in the feed, (3) a support for the

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catalyst, (4) an unspecified activator (review the above 112 rejection of claims 21, 22, 24, and 27).

However, the Duun catalyst is a nickel-organo catalyst which is expected to be of producing Schulz-Flory as claimed by applicants since Dunn's catalyst is also an organometallic catalyst.

Since the concentration of reactants must be selected according to the desired product, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Dunn's process by selecting appropriate concentrations for each reactants so that the desired product can be obtained. Further, it has been held by the patent law that the selection of reaction parameters such as temperature and concentration would have been obvious. More particularly, where the general conditions of the claimed are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller* 105 USPQ 233, 255 (CCPA 1955). *In re Waite* 77 USPQ 586 (CCPA 1948). *In re Scherl* 70 USPQ 204 (CCPA 1946). *In re Irmischer* 66 USPQ 314 (CCPA 1945). *In re Norman* 66 USPQ 308 (CCPA 1945). *In re Swenson* 56 USPQ 372 (CCPA 1942). *In re Sola* 25 USPQ 433 (CCPA 1935). *In re Dreyfus* 24 USPQ 52 (CCPA 1934).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Dunn's process by using a support for the catalyst such as silica since it is expected that supports as inert material would not affect the reaction.

The claimed unspecified activator is indistinguishable from others also present in the reactor such as organoaluminum compound (see the abstract).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan D. Dang whose telephone number is 703-305-2658. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Thuan D. Dang
Primary Examiner
Art Unit 1764

10081321.1st
July 8, 2003

A handwritten signature in black ink, appearing to be 'Thuan D. Dang', written over a horizontal line.